Bezier Tracker Update

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Objective

- Write a module that creates tracks associated with triggers using the Bezier tracker algorithm from LArSoft

Rewriting the Module

- Adapted Bezier module to produce associations between triggers and tracks/vertices

  - Added these new associations to classes.h and classes_def.xml in lariatsoft

- Changed how clusters are obtained from event to use only clusters associated with a specific trigger

- Added loop over triggers

Problems with Algorithms

- Tried to use Bezier module with Argoneut/LArIAT in the past with MC data

  – Got an error from inside the track maker algorithm about not finding wire plane 2

  – Got this error again when I tried to run my lariatsoft Bezier module

- Looked through Bezier and Seedfinder algorithms and found that both modules assume that the detector has 3 wire planes

Solution to Algorithm Problems

- Made changes to algorithms to remove dependence on number of planes

  - Got these to run, but they were not producing any tracks

- Brian suggested I adapt the algorithms in LArSoft to work with 2 or 3 wire planes and add these to LArSoft

  - Keeping LArIAT Bezier module in lariatsoft

Current and Future Work

- Currently debugging plane-independent Bezier algorithms in LArSoft

- Plan to adapt LArSoft's Bezier analyzer to check performance of lariatsoft Bezier tracker when algorithms and module are ready